

DETAIL OF PROJECT COSTS

PLEASE COMPLETE THE TABLE BELOW FOR THE DIFFERENT CATEGORIES OF EQUIPMENT THAT WILL BE REQUIRED FOR COMPLETING THE PROJECT. EACH CATEGORY SHOULD BE BROKEN DOWN TO THE APPROPRIATE LEVEL FOR IDENTIFYING UNIT COST

	Match (Cash/In-kind)	Cash Match Percentage	Unit Cost	No. of Units	Total Cost	Last Mile Allocation	Middle Mile Allocation	Allocated Total	SF-424C Budget Category	Support of Reasonableness
NETWORK & ACCESS EQUIPMENT					\$1,867,707.00	\$0	\$1,867,707	\$1,867,707		
Switching										
					\$0.00			\$0		
	TTWN core switch upgrades	Cash Match	100.00%	\$180,346	1	\$180,346.00	\$180,346.00	\$180,346	9. Construction	This is required to be able to support all of the needed installations. This is core equipment.
Routing										
	Install access routers at campuses	Cash Match	100.00%	\$9,747.00	8	\$77,976.00	\$77,976.00	\$77,976	9. Construction	Required to connect campuses
	POP core routers	No Match		\$13,267.00	3	\$39,801.00	\$39,801.00	\$39,801	9. Construction	Required to support expanded network connectivity.
	CIS Core routers / Houston and College Station	Cash Match	100.00%	\$156,870.00	2	\$313,740.00	\$313,740.00	\$313,740	9. Construction	Required to meet increased routing requirements.
	Upgrade LEARN DWDM nodes in Waller, Waco and Corpus Christi	No Match		\$170,000.00	1	\$170,000.00	\$170,000.00	\$170,000	9. Construction	Required to provide required backbone access
Transport										
	DWDM node upgrade in Atlanta Texas	No Match		\$85,000.00	1	\$85,000.00	\$85,000.00	\$85,000	9. Construction	Required to be able to add Texarkana to existing DWDM network
	DWDM node in Kingsville	No Match		\$85,000.00	1	\$85,000.00	\$85,000.00	\$85,000	9. Construction	Needed to be able to connect back to the existing south valley DWDM ring.
	Install DWDM node in Campbell and Commerce	Cash Match	67.78%	\$254,406.00	1	\$254,406.00	\$254,406.00	\$254,406	9. Construction	Required to connect TAMU Commerce to UT Austin link to Dallas
	Install DWDM node in Waco and upgrade Temple	Cash Match	30.00%	\$87,875.00	1	\$87,875.00	\$87,875.00	\$87,875	9. Construction	Required to be able to connect HSC to LEARN network
	Install DWDM nodes in TSU area	Cash Match	14.01%	\$343,535.00	1	\$343,535.00	\$343,535.00	\$343,535	9. Construction	This is needed to allow the fiber installed to TSU to be able to connect to the LEARN network in Goldwaith.
Access										
					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
Other										
	Public Safety radio gateways	Cash Match	40.00%	\$19,169.00	12	\$230,028.00	\$230,028.00	\$230,028	9. Construction	These gateways will allow the public safety applications to work over the network.
					\$0.00			\$0		
					\$0.00			\$0		
OUTSIDE PLANT					\$6,819,905.00		\$6,819,905	\$6,819,905		
Cables										
	West Texas A&M fiber	Cash Match	18.89%	0.87	105820	\$92,063.40	\$92,063.40	\$92,063	9. Construction	Fiber cable needed to connect WTAMU
	West Texas A&M fiber splice cases	Cash Match	18.89%	1459.7	20	\$29,194.00	\$29,194.00	\$29,194	9. Construction	Fiber cable needed to connect WTAMU
	West Texas A&M fiber 3x5 handhole	Cash Match	18.89%	2475	20	\$49,500.00	\$49,500.00	\$49,500	9. Construction	Fiber cable needed to connect WTAMU
	West Texas A&M fiber driveway bore	Cash Match	18.89%	5500	17	\$93,500.00	\$93,500.00	\$93,500	9. Construction	Fiber cable needed to connect WTAMU
	West Texas A&M fiber patch panel	Cash Match	18.89%	2672.4	2	\$5,344.80	\$5,344.80	\$5,345	9. Construction	Fiber cable needed to connect WTAMU
	Texas A&M International fiber	Cash Match	100.00%	0.72	2170	\$1,562.40	\$1,562.40	\$1,562	9. Construction	Fiber needed to connect TAMU
	Texas A&M International fiber splice case	Cash Match	100.00%	1459.7	4	\$5,838.80	\$5,838.80	\$5,839	9. Construction	Fiber needed to connect TAMU
	Texas A&M International fiber Driveway Bore	Cash Match	100.00%	5500.03	7	\$38,500.20	\$38,500.20	\$38,500	9. Construction	Fiber needed to connect TAMU
	Texas A&M International fiber patch panel	Cash Match	100.00%	2599.8	2	\$5,199.60	\$5,199.60	\$5,200	9. Construction	Fiber needed to connect TAMU
	Texas A&M International fiber Placing and splicing laboe	Cash Match	100.00%	55	197	\$10,835.00	\$10,835.00	\$10,835	9. Construction	Fiber needed to connect TAMU
	Texas A&M International fiber 3x5 handhole	Cash Match	100.00%	2475	8	\$19,800.00	\$19,800.00	\$19,800	9. Construction	Fiber needed to connect TAMU
	Central Texas A&M 24 strand fiber	Cash Match	15.32%	0.52	41310	\$21,481.20	\$21,481.20	\$21,481	9. Construction	Fiber needed to connect TAMU Central Texas
	Central Texas A&M splice Cases	Cash Match	15.32%	1459.7	4	\$5,838.80	\$5,838.80	\$5,839	9. Construction	Fiber needed to connect TAMU Central Texas
	Central Texas A&M 3x5 handhole	Cash Match	15.32%	2475	6	\$14,850.00	\$14,850.00	\$14,850	9. Construction	Fiber needed to connect TAMU Central Texas
	Central Texas A&M fiber driveway road bore	Cash Match	15.32%	5500	21	\$115,500.00	\$115,500.00	\$115,500	9. Construction	Fiber needed to connect TAMU Central Texas
	Central Texas A&M fiber path panel	Cash Match	15.32%	2553.25	2	\$5,106.50	\$5,106.50	\$5,107	9. Construction	Fiber needed to connect TAMU Central Texas
	TAMU Galveston fiber	Cash Match	30.71%	0.48	13570	\$6,513.60	\$6,513.60	\$6,514	9. Construction	Fiber needed to connect TAMU Galveston network.
	TAMU Galveston Aerial fiber with lash	Cash Match	30.71%	1.65	6570	\$10,840.50	\$10,840.50	\$10,841	9. Construction	Fiber ane material needed to connect Galveston
	TAMU Galveston splice case	Cash Match	30.71%	1459.7	5	\$7,298.50	\$7,298.50	\$7,299	9. Construction	Fiber ane material needed to connect Galveston
	TAMU Galveston Bore under ship channel	Cash Match	30.71%	211104	1	\$211,104.00	\$211,104.00	\$211,104	9. Construction	Fiber ane material needed to connect Galveston
	TAMU Galveston 3x5 handhole	Cash Match	30.71%	2475	7	\$17,325.00	\$17,325.00	\$17,325	9. Construction	Fiber ane material needed to connect Galveston
	TAMU Galveston driveway bore	Cash Match	30.71%	5500	15	\$82,500.00	\$82,500.00	\$82,500	9. Construction	Fiber ane material needed to connect Galveston
	TAMU Galveston fiber patch panel	Cash Match	30.71%	2233	2	\$4,466.00	\$4,466.00	\$4,466	9. Construction	Fiber ane material needed to connect Galveston
	City of Corpus Christi Pole lashing material	Cash Match	51.00%	52067.6	1	\$52,067.60	\$52,067.60	\$52,068	9. Construction	Fiber needed to connect City of Corpus Christi to Valley Telephone DWDM ring
	City of Corpus Christi Aerial fiber SM&MM	Cash Match	51.00%	9.78	38500	\$145,530.00	\$145,530.00	\$145,530	9. Construction	Fiber needed to connect City of Corpus Christi to Valley Telephone DWDM ring
	City of Corpus Christi splice cases	Cash Match	51.00%	1459.7	12	\$17,516.40	\$17,516.40	\$17,516	9. Construction	Fiber needed to connect City of Corpus Christi to Valley Telephone DWDM ring
	City of Corpus Christi 3x5 handhole	Cash Match	51.00%	2475	8	\$19,800.00	\$19,800.00	\$19,800	9. Construction	Fiber needed to connect City of Corpus Christi to Valley Telephone DWDM ring
	City of Corpus Christi Driveway bore	Cash Match	51.00%	5500	16	\$88,000.00	\$88,000.00	\$88,000	9. Construction	Fiber needed to connect City of Corpus Christi to Valley Telephone DWDM ring
	City of Corpus Christi fiber optic patch panel	Cash Match	51.00%	2233	22	\$49,126.00	\$49,126.00	\$49,126	9. Construction	Fiber needed to connect City of Corpus Christi to Valley Telephone DWDM ring
	TAMU Corpus Christi fiber	Cash Match	39.36%	0.45	7915	\$3,561.75	\$3,561.75	\$3,562	9. Construction	Fiber needed to connect TAMUCC to Valley Telephone DWDM ring
	TAMU Corpus Christi splice cases	Cash Match	39.36%	1459.7	10	\$14,597.00	\$14,597.00	\$14,597	9. Construction	Fiber needed to connect TAMUCC to Valley Telephone DWDM ring
	TAMU Corpus Christi aerial fiber with strand	Cash Match	39.36%	1.65	11939	\$19,699.35	\$19,699.35	\$19,699	9. Construction	Fiber needed to connect TAMUCC to Valley Telephone DWDM ring
	TAMU Corpus Christi 3x5 hand hole	Cash Match	39.36%	2475	12	\$29,700.00	\$29,700.00	\$29,700	9. Construction	Fiber needed to connect TAMUCC to Valley Telephone DWDM ring
	TAMU Corpus Christi driveway bore	Cash Match	39.36%	5500	17	\$93,500.00	\$93,500.00	\$93,500	9. Construction	Fiber needed to connect TAMUCC to Valley Telephone DWDM ring
	TAMU Corpus Christi fiber patch panel	Cash Match	39.36%	2233	6	\$13,398.00	\$13,398.00	\$13,398	9. Construction	Fiber needed to connect TAMUCC to Valley Telephone DWDM ring
	TAMU Corpus Christi Region 2 ESC connect	Cash Match	39.36%	9382.05	1	\$9,382.05	\$9,382.05	\$9,382	9. Construction	Fiber needed to connect TAMUCC to Valley Telephone DWDM ring
	Tareleton State University fiber	Cash Match	18.96%	0.9	243089	\$218,780.10	\$218,780.10	\$218,780	9. Construction	Required to connect TSU campus to network
	Tareleton State University aerial fiber	Cash Match	18.96%	1.65	4178	\$6,893.70	\$6,893.70	\$6,894	9. Construction	Required to connect TSU campus to network
	Tareleton State University splice case	Cash Match	18.96%	1459.7	57	\$83,202.90	\$83,202.90	\$83,203	9. Construction	Required to connect TSU campus to network
	Tareleton State University 3x5 handhole	Cash Match	18.96%	2475	38	\$94,050.00	\$94,050.00	\$94,050	9. Construction	Required to connect TSU campus to network
	Tareleton State University driveway bore	Cash Match	18.96%	5500	48	\$264,000.00	\$264,000.00	\$264,000	9. Construction	Required to connect TSU campus to network
	Tareleton State University fiber patch panel	Cash Match	18.96%	2241.25	2	\$4,482.49	\$4,482.49	\$4,482	9. Construction	Required to connect TSU campus to network
	TAMU Riverside fiber	Cash Match	28.00%	0.97	29772	\$28,878.84	\$28,878.84	\$28,879	9. Construction	Required to connect Riverside campus to network
	TAMU Riverside Splice cases	Cash Match	28.00%	1459.7	7	\$10,217.90	\$10,217.90	\$10,218	9. Construction	Required to connect Riverside campus to network
	TAMU Riverside 3x5 handhole	Cash Match	28.00%	2475	18	\$44,550.00	\$44,550.00	\$44,550	9. Construction	Required to connect Riverside campus to network
	TAMU Riverside driveway bore	Cash Match	28.00%	5500	23	\$126,500.00	\$126,500.00	\$126,500	9. Construction	Required to connect Riverside campus to network
	TAMU Riverside Bore Hwy 47 per TxDOT	Cash Match	28.00%	39085.88	1	\$39,085.88	\$39,085.88	\$39,086	9. Construction	Required to connect Riverside campus to network
	TAMU Riverside fiber patch panel	Cash Match	28.00%	2255.12	1	\$2,255.12	\$2,255.12	\$2,255	9. Construction	Required to connect Riverside campus to network
	Prairie View A&M 24 strand fiber	Cash Match	28.45%	0.45	28598	\$12,869.10	\$12,869.10	\$12,869	9. Construction	Required to connect PVAMU to LEARN network
	Prairie View A&M Splice case	Cash Match	28.45%	1459.7	10	\$14,597.00	\$14,597.00	\$14,597	9. Construction	Required to connect PVAMU to LEARN network
	Prairie View A&M 3x5 hand hole	Cash Match	28.45%	2475	9	\$22,275.00	\$22,275.00	\$22,275	9. Construction	Required to connect PVAMU to LEARN network
	Prairie View A&M Bore Driveway	Cash Match	28.45%	5500	9	\$49,500.00	\$49,500.00	\$49,500	9. Construction	Required to connect PVAMU to LEARN network
	Prairie View A&M Interconnect to Level3 facility	Cash Match	28.45%	32530.55	1	\$32,530.55	\$32,530.55	\$32,531	9. Construction	Required to connect PVAMU to LEARN network

	Prairie View A&M Bore Hwy 290 per TxDOT specs	Cash Match	28.45%	47888.93	1	\$47,888.93	\$47,888.93	\$47,888.93	\$47,889.00	9. Construction	Required to connect PVAMU to LEARN network
	Prairie View A&M 24 strand patch panel	Cash Match	28.45%	2233	2	\$4,466.00	\$4,466.00	\$4,466.00	\$4,466.00	9. Construction	Required to connect PVAMU to LEARN network
	TAMU Texarkana fiber	Cash Match	14.07%	0.9	187853	\$169,067.70	\$169,067.70	\$169,068.00	\$169,068.00	9. Construction	Fiber needed to connect to TAMU Texarkana
	TAMU Texarkana Aerial fiber	Cash Match	14.07%	1.65	24408	\$40,273.20	\$40,273.20	\$40,273.00	\$40,273.00	9. Construction	Fiber needed to connect to TAMU Texarkana
	TAMU Texarkana 3x5 handhole	Cash Match	14.07%	2475	36	\$89,100.00	\$89,100.00	\$89,100.00	\$89,100.00	9. Construction	Fiber needed to connect to TAMU Texarkana
	TAMU Texarkana Bore Hwy 59 per TxDOT specs	Cash Match	14.07%	43340.63	1	\$43,340.63	\$43,340.63	\$43,341.00	\$43,341.00	9. Construction	Fiber needed to connect to TAMU Texarkana
	TAMU Texarkana Driveway bore	Cash Match	14.07%	5500	55	\$302,500.00	\$302,500.00	\$302,500.00	\$302,500.00	9. Construction	Fiber needed to connect to TAMU Texarkana
	TAMU Texarkana splice case	Cash Match	14.07%	1459.7	38	\$55,468.60	\$55,468.60	\$55,469.00	\$55,469.00	9. Construction	Fiber needed to connect to TAMU Texarkana
	TAMU Texarkana fiber patch panel	Cash Match	14.07%	2233	7	\$15,631.00	\$15,631.00	\$15,631.00	\$15,631.00	9. Construction	Fiber needed to connect to TAMU Texarkana
	TAMU San Antonio fiber	Cash Match	50.53%	0.45	1570	\$706.50	\$706.50	\$707.00	\$707.00	9. Construction	Fiber and material needed to connect TAMU San Antonio
	TAMU San Antonio aerial fiber with strand	Cash Match	50.53%	1.65	4580	\$7,573.50	\$7,573.50	\$7,574.00	\$7,574.00	9. Construction	Fiber and material needed to connect TAMU San Antonio
	TAMU San Antonio Splice cases	Cash Match	50.53%	1459.7	4	\$5,838.80	\$5,838.80	\$5,839.00	\$5,839.00	9. Construction	Fiber and material needed to connect TAMU San Antonio
	TAMU San Antonio 3x5 handhole	Cash Match	50.53%	2475	3	\$7,425.00	\$7,425.00	\$7,425.00	\$7,425.00	9. Construction	Fiber and material needed to connect TAMU San Antonio
	TAMU San Antonio bore driveway	Cash Match	50.53%	5500	4	\$22,000.00	\$22,000.00	\$22,000.00	\$22,000.00	9. Construction	Fiber and material needed to connect TAMU San Antonio
	TAMU San Antonio fiber entry to valley telephone	Cash Match	50.53%	12004.71	1	\$12,004.71	\$12,004.71	\$12,005.00	\$12,005.00	9. Construction	Fiber and material needed to connect TAMU San Antonio
	TAMU San Antonio fiber patch panel	Cash Match	50.53%	2253.69	1	\$2,253.69	\$2,253.69	\$2,254.00	\$2,254.00	9. Construction	Fiber and material needed to connect TAMU San Antonio
	Waco to Temple LEARN fiber	Cash Match	43.00%	0.45	15400	\$6,930.00	\$6,930.00	\$6,930.00	\$6,930.00	9. Construction	Fiber and Material needed to connect Waco to Temple
	Waco to Temple LEARN Aerial fiber with strand	Cash Match	43.00%	1.65	880	\$1,452.00	\$1,452.00	\$1,452.00	\$1,452.00	9. Construction	Fiber and Material needed to connect Waco to Temple
	Waco to Temple LEARN Level3 interconnect	Cash Match	43.00%	36435.2	1	\$36,435.20	\$36,435.20	\$36,435.00	\$36,435.00	9. Construction	Fiber and Material needed to connect Waco to Temple
	Waco to Temple LEARN Splice cases	Cash Match	43.00%	1459.7	8	\$11,677.60	\$11,677.60	\$11,678.00	\$11,678.00	9. Construction	Fiber and Material needed to connect Waco to Temple
	Waco to Temple LEARN 3x5 hand hole	Cash Match	43.00%	2475	7	\$17,325.00	\$17,325.00	\$17,325.00	\$17,325.00	9. Construction	Fiber and Material needed to connect Waco to Temple
	Waco to Temple LEARN driveway bore	Cash Match	43.00%	5500	6	\$33,000.00	\$33,000.00	\$33,000.00	\$33,000.00	9. Construction	Fiber and Material needed to connect Waco to Temple
	Waco to Temple LEARN fiber optic patch panel	Cash Match	43.00%	2256.1	2	\$4,512.20	\$4,512.20	\$4,512.00	\$4,512.00	9. Construction	Fiber and Material needed to connect Waco to Temple
	TAMU Kngsville fiber	Cash Match	82.42%	0.45	3160	\$1,422.00	\$1,422.00	\$1,422.00	\$1,422.00	9. Construction	Fiber and Material needed to connect TAMU Kingsville
	TAMU Kngsville splice case	Cash Match	82.42%	1459.7	3	\$4,379.10	\$4,379.10	\$4,379.00	\$4,379.00	9. Construction	Fiber and Material needed to connect TAMU Kingsville
	TAMU Kngsville 3x5 hand hole	Cash Match	82.42%	2475.4	4	\$9,900.00	\$9,900.00	\$9,900.00	\$9,900.00	9. Construction	Fiber and Material needed to connect TAMU Kingsville
	TAMU Kngsville Driveway road bore	Cash Match	82.42%	5500	9	\$49,500.00	\$49,500.00	\$49,500.00	\$49,500.00	9. Construction	Fiber and Material needed to connect TAMU Kingsville
	TAMU Kngsville fiber patch panel	Cash Match	82.42%	2247.75	2	\$4,495.50	\$4,495.50	\$4,496.00	\$4,496.00	9. Construction	Fiber and Material needed to connect TAMU Kingsville
Conduits						\$0.00	\$0.00	\$0.00	\$0.00	9. Construction	
						\$0.00	\$0.00	\$0.00	\$0.00	9. Construction	
						\$0.00	\$0.00	\$0.00	\$0.00	9. Construction	
Ducts	West Texas A&M	Cash Match	18.89%	0.79	105820	\$83,597.80	\$83,597.80	\$83,598.00	\$83,598.00	9. Construction	
	Texas A&M International	Cash Match	100.00%	1.25	2170	\$2,712.50	\$2,712.50	\$2,713.00	\$2,713.00	9. Construction	
	Central Texas A&M fiber	Cash Match	15.32%	0.85	41310	\$35,113.50	\$35,113.50	\$35,114.00	\$35,114.00	9. Construction	
	TAMU Galveston	Cash Match	30.71%	0.82	13570	\$11,127.40	\$11,127.40	\$11,127.00	\$11,127.00	9. Construction	
	City of Corpus Christi	Cash Match	51.00%	0.79	23000	\$18,170.00	\$18,170.00	\$18,170.00	\$18,170.00	9. Construction	
	TAMU Corpus Christi	Cash Match	39.36%	0.79	7915	\$6,252.85	\$6,252.85	\$6,253.00	\$6,253.00	9. Construction	
	TAMU San Antonio	Cash Match	50.53%	0.79	1570	\$1,240.30	\$1,240.30	\$1,240.00	\$1,240.00	9. Construction	
	Waco to Temple LEARN	Cash Match	43.00%	0.79	15400	\$12,166.00	\$12,166.00	\$12,166.00	\$12,166.00	9. Construction	
	Tareyton State University	Cash Match	18.96%	0.79	243089	\$192,040.31	\$192,040.31	\$192,040.00	\$192,040.00	9. Construction	
	TAMU Riverside	Cash Match	28.00%	0.83	29772	\$24,710.76	\$24,710.76	\$24,711.00	\$24,711.00	9. Construction	
	Prairie View A&M	Cash Match	28.45%	0.79	28598	\$22,592.42	\$22,592.42	\$22,592.00	\$22,592.00	9. Construction	
	TAMU Texarkana	Cash Match	14.07%	0.79	187853	\$148,403.87	\$148,403.87	\$148,404.00	\$148,404.00	9. Construction	
	TAMU Kngsville	Cash Match	82.42%	0.79	3160	\$2,496.40	\$2,496.40	\$2,496.00	\$2,496.00	9. Construction	
Poles						\$0.00	\$0.00	\$0.00	\$0.00		
						\$0.00	\$0.00	\$0.00	\$0.00		
						\$0.00	\$0.00	\$0.00	\$0.00		
Towers						\$0.00	\$0.00	\$0.00	\$0.00		
						\$0.00	\$0.00	\$0.00	\$0.00		
						\$0.00	\$0.00	\$0.00	\$0.00		
Repeaters						\$0.00	\$0.00	\$0.00	\$0.00		
						\$0.00	\$0.00	\$0.00	\$0.00		
Other	West Texas A&M fiber labor	Cash Match	18.89%	55	1550	\$85,250.00	\$85,250.00	\$85,250.00	\$85,250.00	9. Construction	Splicing and pulling labor needed to install fiber
	Central Texas A&M fiber labor	Cash Match	15.32%	55	2955	\$162,525.00	\$162,525.00	\$162,525.00	\$162,525.00	9. Construction	Splicing and pulling labor needed to install fiber
	City of Corpus Christi labor	Cash Match	51.00%	55	10460	\$575,300.00	\$575,300.00	\$575,300.00	\$575,300.00	9. Construction	Splicing and pulling labor needed to install fiber
	TAMU Corpus Christi labor	Cash Match	39.36%	55	1400	\$77,000.00	\$77,000.00	\$77,000.00	\$77,000.00	9. Construction	Splicing and pulling labor needed to install fiber
	Tareyton State University labor	Cash Match	18.96%	55	7120	\$391,600.00	\$391,600.00	\$391,600.00	\$391,600.00	9. Construction	Splicing and pulling labor needed to install fiber
	TAMU Riverside fiber labor	Cash Match	28.00%	55	2996	\$164,780.00	\$164,780.00	\$164,780.00	\$164,780.00	9. Construction	Splicing and pulling labor needed to install fiber
	Prairie View A&M plating and splicing labor	Cash Match	28.45%	55	3858	\$212,190.00	\$212,190.00	\$212,190.00	\$212,190.00	9. Construction	Splicing and pulling labor needed to install fiber
	TAMU Texarkana labor	Cash Match	14.07%	55	14748	\$811,140.00	\$811,140.00	\$811,140.00	\$811,140.00	9. Construction	Splicing and pulling labor needed to install fiber
	TAMU San Antonio labor	Cash Match	50.53%	55	1130	\$62,150.00	\$62,150.00	\$62,150.00	\$62,150.00	9. Construction	Splicing and pulling labor needed to install fiber
	TAMU Galveston labor	Cash Match	30.71%	55	820	\$45,100.00	\$45,100.00	\$45,100.00	\$45,100.00	9. Construction	Splicing and pulling labor needed to install fiber
	Waco to Temple LEARN labor	Cash Match	43.00%	55	3378	\$185,790.00	\$185,790.00	\$185,790.00	\$185,790.00	9. Construction	Splicing and pulling labor needed to install fiber
	TAMU Kngsville fiber labor	Cash Match	82.42%	55	276	\$15,180.00	\$15,180.00	\$15,180.00	\$15,180.00	9. Construction	Splicing and pulling labor needed to install fiber
						\$0.00	\$0.00	\$0.00	\$0.00		

	Match	Cash Match	Unit Cost	No. of	Total Cost	Last Mile	Middle Mile	Allocated Total	SF-424C Budget	Support of Reasonableness
BUILDINGS					\$55,000.00	\$0	\$55,000	\$55,000		
New Construction					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
Pre-Fab Huts					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
Improvements &					\$0.00			\$0		
Generator for Campbell site	No Match		55000	1	\$55,000.00		\$55,000	\$55,000	10. Equipment	Needed to support reliable power to Campbell POP
					\$0.00			\$0		
					\$0.00			\$0		
Other					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
CUSTOMER PREMISE EQUIPMENT					\$0.00	\$0	\$0	\$0		
Modems					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
Set Top Boxes					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
Inside Writing					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
Other					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
BILLING SUPPORT AND OPERATIONS SUPPORT SYSTEMS					\$0.00	\$0	\$0	\$0		
Billing Support					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
Customer Care					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
Other Support					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		

	Match	Cash Match	Unit Cost	No. of	Total Cost	Last Mile	Middle Mile	Allocated Total	SF-424C Budget	Support of Reasonableness
OPERATING EQUIPMENT					\$0.00	\$0	\$0	\$0		
Vehicles					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
Office Equipment /					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
Other					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
PROFESSIONAL SERVICES					\$687,127.00	\$0	\$687,127	\$687,127		
Engineering					\$159,622.00		\$159,622	\$159,622	4. Architectural and engr.	Required to manage project
Network Engineer			159622	1	\$159,622.00		\$159,622	\$159,622	4. Architectural and engr.	Engineering labor needed to specify fiber route, provide material list and acquire permits.
West Texas A&M fiber OSP Engineering	Cash Match	18.89%	82.5	140	\$11,550.00		\$11,550.00	\$11,550	4. Architectural and engr.	Engineering labor needed to specify fiber route, provide material list and acquire permits.
Texas A&M International OSP Engineering	Cash Match	100.00%	82.5	55	\$4,537.50		\$4,537.50	\$4,538	4. Architectural and engr.	Engineering labor needed to specify fiber route, provide material list and acquire permits.
Central Texas A&M fiber OSP Engineering	Cash Match	15.32%	82.5	378	\$31,185.00		\$31,185.00	\$31,185	4. Architectural and engr.	Engineering labor needed to specify fiber route, provide material list and acquire permits.
TAMU Galveston OSP Engineering	Cash Match	30.71%	82.5	130	\$10,725.00		\$10,725.00	\$10,725	4. Architectural and engr.	Engineering labor needed to specify fiber route, provide material list and acquire permits.
City of Corpus Christi OSP Engineering	Cash Match	51.00%	82.5	1600	\$132,000.00		\$132,000.00	\$132,000	4. Architectural and engr.	Engineering labor needed to specify fiber route, provide material list and acquire permits.
TAMU Corpus Christi OSP Engineering	Cash Match	39.36%	82.5	150	\$12,375.00		\$12,375.00	\$12,375	4. Architectural and engr.	Engineering labor needed to specify fiber route, provide material list and acquire permits.
TAMU San Antonio OSP Engineering	Cash Match	50.53%	82.5	85	\$7,012.50		\$7,012.50	\$7,013	4. Architectural and engr.	Engineering labor needed to specify fiber route, provide material list and acquire permits.
Waco to Temple LEARN OSP Engineering	Cash Match	43.00%	82.5	210	\$17,325.00		\$17,325.00	\$17,325	4. Architectural and engr.	Engineering labor needed to specify fiber route, provide material list and acquire permits.
Tareyton State University OSP Engineering	Cash Match	18.96%	82.5	1541	\$127,132.50		\$127,132.50	\$127,133	4. Architectural and engr.	Engineering labor needed to specify fiber route, provide material list and acquire permits.
TAMU Riverside OSP Engineering	Cash Match	28.00%	82.5	417	\$34,402.50		\$34,402.50	\$34,403	4. Architectural and engr.	Engineering labor needed to specify fiber route, provide material list and acquire permits.
Prairie View A&M 24 OSP Engineering	Cash Match	28.45%	82.5	248	\$20,460.00		\$20,460.00	\$20,460	4. Architectural and engr.	Engineering labor needed to specify fiber route, provide material list and acquire permits.
TAMU Texarkana OSP Engineering	Cash Match	14.07%	82.5	1388	\$114,510.00		\$114,510.00	\$114,510	4. Architectural and engr.	Engineering labor needed to specify fiber route, provide material list and acquire permits.
TAMU Kngsville OSP Engineering	Cash Match	82.42%	82.5	52	\$4,290.00		\$4,290.00	\$4,290	4. Architectural and engr.	Engineering labor needed to specify fiber route, provide material list and acquire permits.
					\$0.00			\$0		
					\$0.00			\$0		
Project					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
Consulting					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
Other										
				1						
					\$0.00			\$0		
TESTING					\$0.00	\$0	\$0	\$0		
Network					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
IT System					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
User Devices					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
Test Generators					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
Lab					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
Servers/Computer					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		
					\$0.00			\$0		

	Match	Cash Match	Unit Cost	No. of	Total Cost	Last Mile	Middle Mile	Allocated Total	SF-424C Budget	Support of Reasonableness
OTHER UPFRONT COSTS					\$113,322.00	\$0	\$113,322	\$113,322		
Site					\$0.00			\$0		
Grant Preparation			12000	1	\$12,000.00		12000	\$12,000	1. Admin and Legal	Proposal preparation, data analysis, etc.
Travel			45000	1	\$45,000.00		45000	\$45,000	1. Admin and Legal	The project manager will be required to be on site for a significant part of this project
Other										
Indirect Overhead (required TAMU costs)	No Match		56322	1	\$56,322.00		\$56,322	\$56,322	1. Admin and Legal	Mandatory University Overhead at Federal rate
					\$0.00			\$0		
					\$0.00			\$0		
PROJECT TOTAL:					\$9,543,061.00	\$0	\$9,543,061	\$9,543,061		

SF-424C Cross-check Totals	
1. Admin and Legal	\$113,322.00
2. Land, structures	\$0.00
3. Relocation expenses	\$0.00
4. Architectural and engr.	\$687,127.00
5. Other archit. and engr.	\$0.00
6. Inspection fees	\$0.00
7. Site work	\$0.00
8. Demolition/removal	\$0.00
9. Construction	\$5,687,612.00
10. Equipment	\$55,000.00
11. Misc.	\$0.00

Matching Contribution Cross-check Totals	
Federal Funding Request	\$8,550,775
Cash Match Contribution	\$2,992,286
In-kind Match Contribution	\$0

Approach to allocating Last Mile and Middle Mile costs:

Applicant Name:	Texas A&M University
Easygrants Number:	7487
Organization Type:	State University
Proposed Period of Performance:	Two years from award of grant
Total Project Costs:	\$9,543,061
Total Federal Grant Request:	\$6,550,775
Total Matching Funds (Cash):	\$2,992,286
Total Matching Funds (In-Kind):	\$0
Total Matching Funds (Cash and In-Kind)	\$2,992,286
Total Matching Funds (Cash and In-kind as a percentage of total project costs	31.36%

Administrative and Legal Expenses - \$113,322

Budget Title: Travel

Detailed Description: This will support the travel required to have TAMU staff assist in the engineering, testing and oversight of the network. The sites included in this network are up to 500 miles away so this will require significant travel. Costs will be incurred based on the Texas A&M University Travel Policy. The \$45,000 is over a two year period and it is estimated that the engineer and other staff will spend approximately 50% of their time at construction sites (56 weeks over the 2 years). With a daily hotel state rate of \$80 per night (4 nights a week), averaging \$250 in mileage on a personal vehicle per week on the road and per diem of \$45 per day for 5 days, the cost of the travel is approximately \$45,000.

Contractor: N/A

Cost: \$45,000

Match Amount: \$0

Match Source: N/A

Budget Title: Grant Preparation

Detailed Description: This will provide for proposal preparation, census and demographics research, competitive services research, flood plain search and historical site data analysis required for the proposal. The amount was derived by taking the salaried rate of the four individuals who worked on the data collection and the percentage of their salary that was required for this data collection.

Contractor: N/A
Cost: \$12,000
Match Amount: \$0
Match Source: N/A

Budget Title: Indirect Cost

Detailed Description: Indirect costs are calculated at 26% of salaries, fringe benefits, grant preparation and travel in accordance the rate negotiated with the Department of Health & Human Services. This rate was calculated on the following direct costs:

Network Engineer – Salary	\$131,250
Network Engineer- Fringe Benefits	28,372
Travel	45,000
Grant Preparation	<u>12,000</u>
Total	\$216,622
(26% X \$216,622 = \$56,322)	

Contractor: N/A
Cost: \$56,322
Match Amount: \$0
Match Source: N/A

Architectural and Engineering Fees - \$687,127

Budget Title: Network Engineer and Outside Plant Engineering

Detailed Description: This will support the salary and fringe benefits for a Network Engineer for two years. The salary is estimated at \$131,250 based on historical cost. The fringe benefits are estimated at \$28,372 based on 17.7% of salaries plus a medical insurance benefit in accordance with rates established for The Texas A&M University System. The engineer will work 100% time for two years (2088 hours per year). This engineer will oversee the planning, engineering, installation, testing and documentation of the network. The cost also includes the outside plant engineering costs associated with each fiber segment. These engineering costs total \$527,505.

Cost: \$687,127

Contractor: Verizon – The Outside Plant engineers will be contracted to Verizon under an existing TAMU, Verizon Master Services Agreement.

Match Amount: \$157,169

Source of Match: From TTVN and TAMU Telecommunications capital reserves and from match provided from operating budgets from carrier partners per detailed budget.

Construction Expenses - \$8,687,612

Budget Title: TTVN Switch Upgrades

Detailed Description: This includes two Cisco 7304 routers, and two Cisco 3750 switches. These devices will be installed in co-location racks in the core LEARN network facilities. They are

needed to facilitate the additional routing/switching needs of the new network. TAMU will retain ownership.

Contractor: Cisco routers and switches purchased from Cisco through Verizon on an existing contract for 40+ percent.

Cost: \$180,346

Match Amount: \$180,346 cash. No in-kind

Source of Match: These funds come from TAMU TTVN capital reserves.

Budget Title: Install access routers at campuses

Detailed Description: This includes 8 Cisco C3750 routers. One is installed at each of the TTVN campuses that connects to a new fiber optic segment installed by this project. TAMU will retain ownership.

Contractor: Cisco routers and switches purchased from Cisco through Verizon on an existing contract for 40+ percent.

Cost: \$77,976

Match Amount: \$77,976 cash. No in-kind

Source of Match: These funds come from TAMU TTVN capital reserves.

Budget Title: POP core routers

Detailed Description: This includes three Cisco C3750 routers to be installed at the Dallas, Houston and San Antonio aggregation POPs. These are needed to facilitate the network expansion made possible by this grant. TAMU will retain ownership.

Contractor: Cisco routers and switches purchased from Cisco through Verizon on an existing contract for 40+ percent.

Cost: \$39,801

Match Amount: \$0

Source of Match: N/A

Budget Title: CIS Core routers - Dallas, College Station and Riverside Campus

Detailed Description- These are (1) Juniper MX480 (1) Juniper MX80 and (1) Cisco 6500 core routers installed in the Dallas POP, College Station and Riverside campus sites. These routers are required to facilitate the 10 gigabit per second backbone and additional routing requirements of the proposed network and to facilitate the new fiber link to the Riverside Campus. These routers connect to the 10 gigabit Internet services from Level3 and Qwest and the 10 gigabit Internet2 service. TAMU will retain ownership.

Contractor: These are Juniper routers purchased through Qwest and Cisco router purchased through Verizon.

Cost: \$313,740

Match Amount: \$313,740 cash. No in-kind.

Source of Match: These funds come from TAMU Network and Information Security (NIS) capital reserves.

Budget Title: Upgrade LEARN DWDM nodes

Detailed Description: This will provide upgrades to the LEARN DWDM nodes in Waller, Waco, and Corpus Christi. The upgrades provide optical transponders to support a 1 Gbps link between Waller and Houston (Nortel CPL and 5200), a 1 Gbps link between Waco and Austin (Nortel CPL and 5200) and a 10 Gbps link between Houston and Corpus Christi (ADVA DWDM). TAMU will retain ownership.

Contractor: The equipment will be purchased from LEARN who will in turn purchase the network devices from Nortel and ADVA.

Cost: \$170,000

Match Amount: \$0

Source of Match: N/A

Budget Title: DWDM upgrade in Atlanta Texas

Detailed Description: This will upgrade the ADVA optical amp to an add-drop mux in Atlanta Texas. This is on the fiber path for the Arkansas Regional Optical Network that connects Little Rock Arkansas to Dallas via Atlanta. This will allow the Texarkana site to purchase an optical wavelength between Atlanta and Dallas. TAMU will retain ownership.

Contractor: ARE-ON (Arkansas Regional Optical Network)

Cost: \$85,000

Match Amount: \$0

Source of Match: N/A

Budget Title: DWDM node in Kingsville

Detailed Description: This will provide a Cisco 15454 DWDM node in Kingsville Texas that will connect to the Valley Telephone node in Harlingen Texas. If this node is funded, ownership of the node would be conveyed to Valley Telephone in exchange for a 20 year IRU for 4 wavelengths (lambdas). This would connect to an existing Valley DWDM ring on which TAMU and the University of Texas have a 20 year IRU for up to eight 10 gigabit wavelengths. At the time of the grant submission, Valley Telephone also had a request in a Round 1 BTOP grant for this same equipment. This may be in the process of being funded. If so, we would not purchase this equipment and these funds would be reduced from the final award.

Contractor: If required, Valley Telephone would purchase the Cisco equipment.

Cost: \$85,000

Match Amount: \$0

Source of Match: N/A

Budget Title: Install DWDM node in Campbell

Detailed Description: Install a Cisco 15454 node at the TAMU Commerce campus and upgrade the 2-way ROADM in Campbell to a 3-way ROADM. This would allow access to wavelengths to both Dallas and Tyler Texas. Ownership of the equipment would be conveyed to Peoples Telephone upon completion of the project in exchange for 4 wavelengths to Dallas and Tyler.

Contractor: Peoples Telephone would purchase the Cisco DWDM nodes.

Cost: \$254,406

Match Amount: \$172,427 cash. No in-kind

Source of Match: This match will come from Peoples Telephone Company operating reserves.

Budget Title: Install DWDM node in Waco and Temple

Detailed Description: This will upgrade a 2-way ROADM in Temple Texas to a 3-Way ROADM in Waco Texas. It will allow the Network to provision a 1 gigabit link between the Temple Health Science Center facility and the Waco LEARN node. Upon completion of the network, joint ownership of the DWDM equipment would convey to WinTel and TLSN in exchange for 4 wavelengths between Waco and Temple for 20 years.

Contractors: Wintel and TLSN would purchase the Cisco 15454 equipment

Cost: \$87,875

Match Amount: \$26,363(\$13,133 cash from WinTel and \$13,130 from TLSN). No in-kind.

Source of Match: This match will come from WinTel and TLSN operating reserves.

Budget Title: Install DWDM node in TSU area

Detailed Description: This would install Cisco 15454 nodes in Goldwaith, Texas and Stephenville Texas. Once these nodes are installed ownership will be transferred to Totalcom in exchange for 4 lambdas between Stephenville and Goldwaith.

Contractor: Totalcom would purchase the Cisco 15454 equipment.

Cost: \$343,535

Match Amount: \$48,144 cash. No in-kind

Source of Match: This match would come from Totalcom operating reserves.

Budget Title: Public Safety radio gateways

Detailed Description: This would provide Motorola Motobridges for 12 University Police Departments State DPS gateways that would connect the local UPD police departments to the State Troopers for the purposes of mutual aid support. These are IP gateways that would connect over the new network. TAMU will retain ownership.

Contractor: Motorola

Cost: \$230,028

Match Amount: \$92,011 cash (\$69,008 from the State of Texas DPS and \$23,003 from TAMU TTVN). No in-kind.

Source of Match: The DPS match would come from their capital reserves. The TAMU TTVN match would come from TTVN cash reserves.

Budget Title: Canyon Texas fiber construction

Detailed Description: This would construct about 20.5 miles of 48 strand buried fiber optic cable for a cost of \$21,951 per mile. This would connect the West Texas A&M University campus through the Cleta and Gurley POPs to a DWDM node in Tulia. This would allow us to connect the WTAMU campus to the existing LEARN node in Lubbock Texas. Upon completion of the fiber, we would convey ownership to Mid Plains Telephone Company in exchange for 12

fibers between Canyon and Tulia. The Tulia link would then allow us to purchase either an IRU for a wavelength or purchase a service from ENMR on a DWDM network that was funded by the NTIA in a Round 1 BTOP grant.

Contractor: Mid Plains Telephone would construct this fiber route.

Cost: \$438,450

Match Amount: \$82,818.33 cash. No in-kind

Source of Match: The match would come from Mid Plains Telephone reserves.

Budget Title: Texas A&M International fiber construction in Laredo

Detailed Description- Install 24 strands of fiber between the TAMIU campus and the Valley Telephone ring that runs down Bob Bullock Drive. This construction cost is \$217,039 due to the very short distance of this fiber run (several hundred feet) and the fact that we have to cross three parking lots and several sidewalks. This construction only involves a few hundred feet of fiber, but this connection requires open cuts of parking lots, a bore under two driveways and an interconnect with a carriers fiber. The short distance combined with the complexity cause the per mile cost to be this high. This run is a short distance since it leverages a Valley Telephone Round 1 BTOP grant. This would allow us to acquire a fiber pair between campus and the LEARN node in Laredo. TAMU would own this fiber to the Valley Telephone connection point and then obtain access from Valley Telephone on fiber that was funded by the NTIA in a Round 1 BTOP grant. This access would either be a dark fiber IRU or a service.

Contractor: Verizon Telephone

Cost: \$84,448.50

Match Amount: \$84,448.50 cash. No in-kind

Source of Match: This would come from TAMU TTVN capital reserves.

Budget Title: Central Texas A&M fiber

Detailed Description: Install 7.9 miles of 24 strand fiber between the existing Central Texas A&M campus and the new campus. The cost of this fiber is \$49,569 per mile. This will allow the campus to connect through the existing Bellnet fiber to the Temple HSC campus also connected in this project. TAMU will retain ownership.

Contractor: Verizon

Cost: \$360,415

Match Amount: \$55,221.91

Source of Match: This would come from TAMU TTVN capital reserves.

Budget Title: Install fiber to main island (Galveston)

Detailed Description: This would bore 2.6 miles of 48 fibers under the Galveston ship channel from the main Galveston Island to Pelican Island for a cost of \$156,538 per mile. This is a short fiber run with about .5 miles to be bore under the Galveston Ship Channel. The half mile bore under the ship channel cause account for the high per mile cost of this link. This fiber would then connect to existing fiber that goes from the UTMB campus in Galveston to League City where it would in turn connect to existing fiber. TAMU will retain ownership. The existing fiber

was purchased by the University of Texas at Austin (UTA) as a part of a joint build between UTA and a fiber service provider.

Contractor: Verizon

Cost: \$396,275

Match Amount: \$121,706.08

Source of Match: This would come from TAMU TTVN capital reserves.

Budget Title: Install fiber to City of Corpus Christi

Detailed Description: This would install 7.4 miles of combined single mode and multi mode fiber to 8 City of Corpus Christi sites. The cost of this fiber is \$138,925 per mile. This aerial fiber is in very congested areas which makes the cost per mile much higher. Due to the requirements of the city for both single mode and multi mode fiber (required for existing systems) we had to use a hybrid fiber. This sort of fiber is built to order and the cost is eight to ten times the cost of standard single mode fiber. The type of construction used in areas like Corpus where much of the fiber is 15 feet above sea level in a hurricane prone area is at least two to three times typical construction costs. This installation would leverage existing fiber optic cable. Upon installation, ownership of this fiber would convey to the City of Corpus Christi.

Contractor: Calence Inc.

Cost: \$965,510

Match Amount: \$492,410 cash match (\$466,590 match from the City of Corpus Christi, \$25,820 match from TAMU TTVN). No in-kind.

Source of Match: The City of Corpus Christi match comes from the City capital reserves. The TAMU TTVN match comes from TAMU TTVN capital reserves.

Budget Title: Install fiber to TAMU Corpus Christi

Detailed Description: The project will install 1.5 miles of 24 strands of fiber to 4 TAMUCC sites and the main campus. This fiber costs \$73,543 per mile. This fiber will in turn connect to the LEARN node in Corpus Christi. TAMU will retain ownership of the fiber once it is installed. These links leverage significant existing City of Corpus Christi fiber. We would establish a long term Inter-local agreement between TAMU and the City of Corpus Christi to ensure long term access to this fiber.

Contractor: Verizon

Cost: \$267,091

Match Amount: \$105,129.10 cash. No in-kind.

Source of Match: The TAMU TTVN match comes from TAMU TTVN capital reserves.

Budget Title: Install fiber to TAMU San Antonio

Detailed Description: The project will install 1.2 miles of 24 strand fiber between the TAMU San Antonio campus and the Valley Telephone POP in Southeast San Antonio. The cost of this fiber is \$106,837 per mile. The last several hundred feet of this fiber is being installed on a new campus. This involves construction in a new subdivision where the owner of the subdivision and commercial land donated the campus site to TAMU. The required method of construction by

the owner has increased the cost of this section. This construction includes crossing several new public thoroughfares. It again is a short fiber run with a cost to enter a carriers POP. We will then purchase a connection (either a dark fiber IRU or a service) to the LEARN node in San Antonio. TAMU will retain ownership of this fiber.

Contractor: Verizon

Cost: \$121,192.50

Match Amount: \$61,235.72 in cash. No in-kind.

Source of Match: The TAMU TTVN match comes from TAMU TTVN capital reserves.

Budget Title: Install fiber to Waco LEARN node

Detailed Description: This project will install 3 miles of 24 strand fiber between the LEARN node in Waco and the WinTel/TLSN POP in Waco. This fiber costs \$108,871 per mile. The fiber is run along railroad tracks which require an 8 foot buried depth due to railroad requirements. The stringent installation requirements due to potential train derailment cause the increased cost per mile. This will then be used to connect the Waco LEARN node to the HSC Center in Temple via Services over the DWDM link between Temple and Waco. TAMU will retain ownership of the fiber but will make 12 fibers available to TLSN/WinTel.

Contractor: Verizon

Cost: \$309,288

Match Amount: \$132,994.25 in cash. The match is provided by \$2,954 from Wintel, \$2,957 from TLSN and \$127,083.25 from TAMU TTVN. No in-kind.

Source of Match: The source of the TLSN and WinTel match is from TLSN and WinTel operating reserves. The TAMU TTVN match comes from TAMU TTVN capital reserves.

Budget Title: Install fiber to Tarleton State University

Detailed Description: Install 46.7 miles of 48 fiber optic cable between Tarleton State University in Stephenville and the Totalcom POP in Stephenville and the Totalcom POP in Goldwaith. The cost of this fiber is \$29,597 per mile. This fiber will leverage approximately 40 miles of existing fiber. This will connect to the LEARN node in Goldwaith that is on the Lubbock to San Antonio route. Ownership of the fiber will revert to Totalcom upon completion of the fiber with a 20 year IRU for access to 4 wavelengths on the DWDM network that will ride on this fiber.

Contractor: Verizon

Cost: \$1,255,049.50

Match Amount: \$237,901.35 in cash. Of this match, \$202,388.35 is provided by Totalcom and \$35,513 is provided by the Mid Plains Telephone Company. No in-kind.

Source of Match: The Totalcom match comes from Totalcom operating budgets. The Mid Plains match is provided out of Mid Plains operating budget.

Budget Title: Install fiber to Riverside campus

Detailed Description: This project will provide 5.7 miles of 48 strand fiber optic cable between the TAMU campus in College Station and the Riverside campus in Smetana. The cost of this fiber is \$83,400 per mile due to the short distance and the fact that we have to cross a State Highway

and the State now requires steel sleeves. The steel sleeve requirement in Texas on Texas Department of Transportation right-of-way when crossing a highway and the distance of the bore requires specialized, expensive boring equipment. TAMU will retain ownership of the fiber. The fiber will be made available to the BVCnet which is a community network that includes the Health Science Center, Bryan ISD, College Station ISD, Blinn College, the City of Bryan, the City of College Station and Brazos County.

Contractor: Verizon

Cost: \$440,978.50

Match Amount: \$123,474.30 in cash. \$118,367.30 of the match is provided by TAMU Telecommunications and \$5,107 of the match is provided by TAMU TTVN. No in-kind.

Source of Match: This match comes from the TAMU Telecommunications operating budget. The NIS match comes from the TAMU TTVN capital reserve.

Budget Title: Install fiber to PVAMU campus

Detailed Description: Install 5.4 miles of 24 strand fiber optic cable between the Prairie View A&M campus and the Level3 POP in Waller. The cost of this fiber is \$81,364 per mile due to the short distance and the fact that we have to cross a State Highway and the State now requires steel sleeves. The steel sleeve requirement in Texas on Texas Department of Transportation right-of-way when crossing a highway and the distance of the bore requires specialized, expensive boring equipment. This will then connect to the LEARN node in Houston via the LEARN DWDM network between Waller and Houston. TAMU will retain ownership of the fiber.

Contractor: Verizon

Cost: \$418,909

Match Amount: \$119,178.20 in cash. No in-kind.

Source of Match: This match comes from the TAMU TTVN capital reserves.

Budget Title: Texarkana fiber construction

Detailed Description: This project will install 36.1 miles of 48 strand fiber optic cable between the TAMU Texarkana campus and the Level3 node in Atlanta Texas. The cost of this fiber is \$43,858 per mile. The Atlanta ISD will connect their Administrative Building, their High School and their Middle school on this fiber as well. TAMU will retain ownership of the Texarkana to Atlanta fiber. Ownership of the fiber between the Atlanta High School, the Middle School and the Administrative building will be conveyed to the Atlanta ISD.

Contractor: Verizon

Cost: \$1,674,925

Match Amount: \$235,581.93 in cash. No in-kind

Source of Match: This match is provided by the TAMU TTVN operating reserves.

Budget Title: TAMU Kingsville fiber

Detailed Description: This will provide .6 miles of 24 strand fiber optic cable between the TAMU Kingsville campus and the Valley Telephone POP in Kingsville. The cost of this fiber is \$152,771 per mile due to the short distance (.6 miles) and the fact that we have to cross several parking

lots. The construction on campus will require open cut parking lot construction which is expensive. This will allow TAMU to obtain a wavelength between Kingsville and Harlingen where it will connect to the existing LEARN ring in the Valley. TAMU will retain ownership of this fiber.

Contractor: Verizon

Cost: \$87,373

Match Amount: \$72,010.29 in cash. Of the match, \$7,253.29 is from TAMU TTVN, \$14,487 is from Mid Plains Telephone and \$50,270 is from Totalcom. No in-kind.

Source of Match: The match is provided by the TAMU TTVN out of their capital reserves. The MidPlains Telephone and Totalcom match is provided by their operational reserves.

Subrecipients: The following organizations are subrecipients, and all others listed in this budget are vendors: MidPlains Rural Telephone Cooperative, Inc., Peoples Telephone Cooperative, Inc., Totalcom Communications, The Texas Lone Star Network, WinTel Fiber, and City of Corpus Christi.

Equipment - \$55,000

Budget Title: Campbell Generator

Detailed Description: This project will install a generator sized at about 35KVA to support the Campbell POP. This site is on the critical path of several fiber routes including the Tyler, Commerce, Dallas triangle. While the site does currently have a DC power plant, lengthy power outages are common due to the severe storms that frequent this area. TAMU will retain title.

Contractor: To be bid

Cost: \$55,000

Match Amount: \$0

Source of Match: N/A

Description/Project	Qty	Unit	Cost	Ext. Cost
Prairie View A&M				
24 strand single mode fiber	28,598	feet	\$ 0.45	\$ 12,869.10
1 1/4 inch black subduct	28,598	feet	\$ 0.79	\$ 22,592.42
Splice cases	10	Ea	\$ 1,459.70	\$ 14,597.00
3 foot x 5 foot concrete hand hole	9	Ea	\$ 2,475.00	\$ 22,275.00
Driveway / Road bore	9	Ea	\$ 5,500.00	\$ 49,500.00
Interconnect to Level 3 facility	1	ea	\$ 32,530.55	\$ 32,530.55
Hwy 290 Bore to meet TxDoT requirements (870 feet - steel sleeve)	1	feet	\$ 47,888.93	\$ 47,888.93
24 port fiber optic patch panel with jumpers and splice trays	2	Ea	\$ 2,233.00	\$ 4,466.00
Placing Labor - Includes placing subduct, pulling fiber, placing hand holes, placing splice cases, and splicing fiber	3,858	hours	\$ 55.00	\$ 212,190.00
Engineering Labor - Includes determining exact route, obtaining utility locates, preparing detailed equipment lists, completing engineering CAD drawings and acquiring all required city, county, state and pole contract permits	248	hours	\$ 82.50	\$ 20,460.00
Site Total:				\$ 439,369.00
Central Texas A&M				
24 strand single mode fiber	41,310	feet	\$ 0.52	\$ 21,481.20
Splice cases	4	Ea	\$ 1,459.70	\$ 5,838.80
1 1/4 inch black subduct	41,310	feet	\$ 0.85	\$ 35,113.50
3 foot x 5 foot concrete hand hole	6	Ea	\$ 2,475.00	\$ 14,850.00
Driveway / Road bore	21	Ea	\$ 5,500.00	\$ 115,500.00
24 port fiber optic patch panel with jumpers and splice trays	2	Ea	\$ 2,553.25	\$ 5,106.50
Placing Labor - Includes placing subduct, pulling fiber, placing hand holes, placing splice cases, and splicing fiber	2,955	hours	\$ 55.00	\$ 162,525.00
Engineering Labor - Includes determining exact route, obtaining utility locates, preparing detailed equipment lists, completing engineering CAD drawings and acquiring all required city, county, state and pole contract permits	378	hours	\$ 82.50	\$ 31,185.00

Description/Project	Qty	Unit	Cost	Ext. Cost
Site Total:				\$ 391,600.00
Texas A&M International				
24 strand single mode fiber	2,170	feet	\$ 0.72	\$ 1,562.40
1 1/4 inch black subduct	2,170	feet	\$ 1.25	\$ 2,712.50
Splice cases	4	Ea	\$ 1,459.70	\$ 5,838.80
3 foot x 5 foot concrete hand hole	8	Ea	\$ 2,475.00	\$ 19,800.00
Driveway / Road bore	7	Ea	\$ 5,500.03	\$ 38,500.20
24 port fiber optic patch panel / splice case with jumpers and splice trays	2	Ea	\$ 2,599.80	\$ 5,199.60
Placing Labor - Includes placing subduct, pulling fiber, placing hand holes, placing splice cases, and splicing fiber	197	hours	\$ 55.00	\$ 10,835.00
Engineering Labor - Includes determining exact route, obtaining utility locates, preparing detailed equipment lists, completing engineering CAD drawings and acquiring all required city, county, state and pole contract permits	55	hours	\$ 82.50	\$ 4,537.50
Site Total:				\$ 88,986.00
TAMU Kingville				
24 strand single mode fiber	3,160	feet	\$ 0.45	\$ 1,422.00
Splice cases	3	Ea	\$ 1,459.70	\$ 4,379.10
1 1/4 inch black subduct	3,160	feet	\$ 0.79	\$ 2,496.40
3 foot x 5 foot concrete hand hole	4	Ea	\$ 2,475.00	\$ 9,900.00
Driveway / Road bore	9	Ea	\$ 5,500.00	\$ 49,500.00
24 port fiber optic patch panel with jumpers and splice trays	2	Ea	\$ 2,247.75	\$ 4,495.50
Placing Labor - Includes placing subduct, pulling fiber, placing hand holes, placing splice cases, and splicing fiber	276	hours	\$ 55.00	\$ 15,180.00
Engineering Labor - Includes determining exact route, obtaining utility locates, preparing detailed equipment lists, completing engineering CAD drawings and acquiring all required city, county, state and pole contract permits	52	hours	\$ 82.50	\$ 4,290.00

Description/Project	Qty	Unit	Cost	Ext. Cost
Site Total:				\$ 91,663.00
TAMU Riverside Campus / College Station				
48 strand single mode fiber	29,772	feet	\$ 0.97	\$ 28,878.84
Splice cases	7	Ea	\$ 1,459.70	\$ 10,217.90
1 1/4 inch black subduct	29,772	feet	\$ 0.83	\$ 24,710.76
3 foot x 5 foot concrete hand hole	18	Ea	\$ 2,475.00	\$ 44,550.00
Driveway / Road bore	23	Ea	\$ 5,500.00	\$ 126,500.00
Hwy 47 Bore per TXDOT specifications (steel sleeve)	1	Ea	\$ 39,085.88	\$ 39,085.88
24 port fiber optic patch panel with jumpers and splice trays	1	Ea	\$ 2,255.12	\$ 2,255.12
Placing Labor - Includes placing subduct, pulling fiber, placing hand holes, placing splice cases, and splicing fiber	2,996	hours	\$ 55.00	\$ 164,780.00
Engineering Labor - Includes determining exact route, obtaining utility locates, preparing detailed equipment lists, completing engineering CAD drawings and acquiring all required city, county, state and pole contract permits	417	hours	\$ 82.50	\$ 34,402.50
Site Total:				\$ 475,381.00
TAMU San Antonio				
24 strand single mode fiber	1,570	feet	\$ 0.45	\$ 706.50
1 1/4 inch black subduct	1,570	feet	\$ 0.79	\$ 1,240.30
24 strand aerial single mode fiber, support strand and pole clamps	4,590	feet	\$ 1.65	\$ 7,573.50
Splice cases	4	Ea	\$ 1,459.70	\$ 5,838.80
3 foot x 5 foot concrete hand hole	3	Ea	\$ 2,475.00	\$ 7,425.00
Driveway / Road bore	4	Ea	\$ 5,500.00	\$ 22,000.00
Fiber entry to Valley Telephone facility	1	Ea	\$ 12,004.71	\$ 12,004.71
24 port fiber optic patch panel with jumpers and splice trays	1	Ea	\$ 2,253.69	\$ 2,253.69
Placing Labor - Includes placing subduct, pulling fiber, placing hand holes, placing splice cases, and splicing fiber	1,130	hours	\$ 55.00	\$ 62,150.00

Description/Project	Qty	Unit	Cost	Ext. Cost
Engineering Labor - Includes determining exact route, obtaining utility locates, preparing detailed equipment lists, completing engineering CAD drawings and acquiring all required city, county, state and pole contract permits	85	hours	\$ 82.50	\$ 7,012.50
Site Total:				\$ 128,205.00
TAMU Texarkana (Include Atlanta ISD, High School and Elementary School)				
48 strand single mode fiber	187,853	feet	\$ 0.90	\$ 169,067.70
1 1/4 inch black subduct	187,853	feet	\$ 0.79	\$ 148,403.87
Aerial fiber, support strand and pole clamps	24,408		\$ 1.65	\$ 40,273.20
3 foot x 5 foot concrete hand hole	36	Ea	\$ 2,475.00	\$ 89,100.00
Bore Hwy 59 per TxDOT specifications (steel sleeve, 788 feet)	1	Ea	\$ 43,340.63	\$ 43,340.63
Driveway / Road bore	55	Ea	\$ 5,500.00	\$ 302,500.00
Splice case	38	ea	\$ 1,459.70	\$ 55,468.60
24 port fiber optic patch panel with jumpers and splice trays	7	Ea	\$ 2,233.00	\$ 15,631.00
Placing Labor - Includes placing subduct, pulling fiber, placing hand holes, placing splice cases, and splicing fiber	14,748	hours	\$ 55.00	\$ 811,140.00
Engineering Labor - Includes determining exact route, obtaining utility locates, preparing detailed equipment lists, completing engineering CAD drawings and acquiring all required city, county, state and pole contract permits	1,388	hours	\$ 82.50	\$ 114,510.00
Site Total:				\$ 1,789,435.00
Tarleton State University				
48 strand single mode fiber	243,089	feet	\$ 0.90	\$ 218,780.10
1 1/4 inch black subduct	243,089	feet	\$ 0.79	\$ 192,040.31
Aerial Fiber with support strand and pole clamps	4,178		\$ 1.65	\$ 6,893.70
Splice cases	57		\$ 1,459.70	\$ 83,202.90
3 foot x 5 foot concrete hand hole	38	Ea	\$ 2,475.00	\$ 94,050.00

Description/Project	Qty	Unit	Cost	Ext. Cost
Driveway / Road bore	48	Ea	\$ 5,500.00	\$ 264,000.00
24 port fiber optic patch panel with jumpers and splice trays	2	Ea	\$ 2,241.25	\$ 4,482.49
Placing Labor - Includes placing subduct, pulling fiber, placing hand holes, placing splice cases, and splicing fiber	7,120	hours	\$ 55.00	\$ 391,600.00
Engineering Labor - Includes determining exact route, obtaining utility locates, preparing detailed equipment lists, completing engineering CAD drawings and acquiring all required city, county, state and pole contract permits	1,541	hours	\$ 82.50	\$ 127,132.50
Site Total:				\$ 1,382,182.00
Waco Level3 fiber Interconnect				
24 strand single mode fiber	15,400	feet	\$ 0.45	\$ 6,930.00
1 1/4 inch black subduct	15,400	feet	\$ 0.79	\$ 12,166.00
Aerial Fiber with support strand and pole clamps	880	feet	\$ 1.65	\$ 1,452.00
Level3 facility Interconnect	1	Ea	\$ 36,435.20	\$ 36,435.20
Splice cases	8	Ea	\$ 1,459.70	\$ 11,677.60
3 foot x 5 foot concrete hand hole	7	Ea	\$ 2,475.00	\$ 17,325.00
Driveway / Road bore	6	Ea	\$ 5,500.00	\$ 33,000.00
24 port fiber optic patch panel with jumpers and splice trays	2	Ea	\$ 2,256.10	\$ 4,512.20
Placing Labor - Includes placing subduct, pulling fiber, placing hand holes, placing splice cases, and splicing fiber	3,378	hours	\$ 55.00	\$ 185,790.00
Engineering Labor - Includes determining exact route, obtaining utility locates, preparing detailed equipment lists, completing engineering CAD drawings and acquiring all required city, county, state and pole contract permits	210	hours	\$ 82.50	\$ 17,325.00
Site Total:				\$ 326,613.00
West Texas A&M University				
48 strand single mode fiber	105,820	feet	\$ 0.87	\$ 92,063.40
1 1/4 inch black subduct	105,820	feet	\$ 0.79	\$ 83,597.80

Description/Project	Qty	Unit	Cost	Ext. Cost
Splice cases	20	Ea	\$ 1,459.70	\$ 29,194.00
3 foot x 5 foot concrete hand hole	20	Ea	\$ 2,475.00	\$ 49,500.00
Driveway / Road bore	17	Ea	\$ 5,500.00	\$ 93,500.00
24 port fiber optic patch panel with jumpers and splice trays	2	Ea	\$ 2,672.40	\$ 5,344.80
Placing Labor - Includes placing subduct, pulling fiber, placing hand holes, placing splice cases, and splicing fiber	1,550	hours	\$ 55.00	\$ 85,250.00
Engineering Labor - Includes determining exact route, obtaining utility locates, preparing detailed equipment lists, completing engineering CAD drawings and acquiring all required city, county, state and pole contract permits	140	hours	\$ 82.50	\$ 11,550.00
Site Total:				\$ 450,000.00
TAMU Corpus Christi				
24 strand single mode fiber	7,915	feet	\$ 0.45	\$ 3,561.75
1 1/4 inch black subduct	7,915	feet	\$ 0.79	\$ 6,252.85
Splice cases	10	Ea	\$ 1,459.70	\$ 14,597.00
Aerial fiber including support strand and pole clamps	11,939	feet	\$ 1.65	\$ 19,699.35
3 foot x 5 foot concrete hand hole	12	Ea	\$ 2,475.00	\$ 29,700.00
Driveway / Road bore	17	Ea	\$ 5,500.00	\$ 93,500.00
24 port fiber optic patch panel with jumpers and splice trays	6	Ea	\$ 2,233.00	\$ 13,398.00
Region2 Interconnect Includes open road and sidewalk cuts	1	Ea	\$ 9,382.05	\$ 9,382.05
Placing Labor - Includes placing subduct, pulling fiber, placing hand holes, placing splice cases, and splicing fiber	1,400	hours	\$ 55.00	\$ 77,000.00
Engineering Labor - Includes determining exact route, obtaining utility locates, preparing detailed equipment lists, completing engineering CAD drawings and acquiring all required city, county, state and pole contract permits	150	hours	\$ 82.50	\$ 12,375.00
Site Total:				\$ 279,466.00

Description/Project	Qty	Unit	Cost	Ext. Cost
City of Corpus Christi				
1 1/4 inch black subduct	23,000	feet	\$ 0.79	\$ 18,170.00
Pole lashing material, stainless support strand and pole attachment clamps	1	Ea	\$ 52,067.60	\$ 52,067.60
Aerial fiber including support strand and pole clamps (Fiber is various sizes of composite fiber (multi mode and single mode combined). The fibers are 36sm/24mm and 24sm/12mm)	38,500	feet	\$ 3.78	\$ 145,530.00
Splice cases	12	Ea	\$ 1,459.70	\$ 17,516.40
3 foot x 5 foot concrete hand hole	8	Ea	\$ 2,475.00	\$ 19,800.00
Driveway / Road bore	16	Ea	\$ 5,500.00	\$ 88,000.00
24 port fiber optic patch panel with jumpers and splice trays	22	Ea	\$ 2,233.00	\$ 49,126.00
Placing Labor - Includes placing subduct, pulling fiber, placing hand holes, placing splice cases, and splicing fiber	10,460	hours	\$ 55.00	\$ 575,300.00
Engineering Labor - Includes determining exact route, obtaining utility locates, preparing detailed equipment lists, completing engineering CAD drawings and acquiring all required city, county, state and pole contract permits	1,600	hours	\$ 82.50	\$ 132,000.00
Site Total:				\$ 1,097,510.00
TAMU Galveston				
24 strand single mode fiber	13,570	feet	\$ 0.48	\$ 6,513.60
1 1/4 inch black subduct	13,570	feet	\$ 0.82	\$ 11,127.40
Aerial fiber including support strand and pole clamps	6,570	feet	\$ 1.65	\$ 10,840.50
Splice cases	5	Ea	\$ 1,459.70	\$ 7,298.50
Bore under Galveston ship channel (using drill stem, 1,970 feet)	1	ea	\$ 211,104.00	\$ 211,104.00
3 foot x 5 foot concrete hand hole	7	Ea	\$ 2,475.00	\$ 17,325.00
Driveway / Road bore	15	Ea	\$ 5,500.00	\$ 82,500.00
24 port fiber optic patch panel with jumpers and splice trays	2	Ea	\$ 2,233.00	\$ 4,466.00
Placing Labor - Includes placing subduct, pulling fiber, placing hand holes, placing splice cases, and splicing fiber	820	hours	\$ 55.00	\$ 45,100.00

Description/Project	Qty	Unit	Cost	Ext. Cost
Engineering Labor - Includes determining exact route, obtaining utility locates, preparing detailed equipment lists, completing engineering CAD drawings and acquiring all required city, county, state and pole contract permits	130	hours	\$ 82.50	\$ 10,725.00
Site Total: \$				407,000.00